

The Graphics Machine(tm)

Written by Geoff Caras

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Educational Software

INTRODUCTION

This package allows you to easily edit and save a graphics mode 8 screen image. It also enables you to put standard graphics mode 0 (text) characters onto the image at machine speeds. Artifacts may be employed to produce multiple colors.

All commands are entered with easy English statements, and numbers correspond to the standard graphics mode 8 window.

Command format is easy to master and even if one forgets the name of a command, the help files will give a short form summary of all commands.

The general form of commands is :

Commandname arg1,arg2,arg3,arg4,arg5

A space must follow the command name (all commands are one word) and each command has at least one argument. Arguments are integers that range from -99 to 999. Some of the commands have a dummy argument; the number after the command makes no difference, yet it is still required. This is similar to Atari Basic's fre(n) or rnd(n) commands where n is simply a place holder.

The Commands:

BOX x1,y1,x2,y2
CIRCLE x1,y1,rad,roundness
CLEAR dummy
CLOSEOUT dummy
DIR driveno
DISKERRORS dummy
DRAW dummy
ERASE dummy
ERROROFF dummy
FILER dummy
FILL x1,y1,x2,y2,skip
FULLSCREEN seconds
GETSCREEN dummy
HELP
HIDSCREEN dummy
LINE x1,y1,x2,y2
POLYGON x1,y1,radius,sideno,rota
SAVESCREEN dummy
SETCOLOR reg,lum,hue
SHOWSCREEN dummy
TEXT x1,y1
TRIANGLE x1,y1,x2,y2,x3,y3

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REMOVE THE CARTRIDGE

This disk is self booting. Just pull out the cartridge and put the disk in drive #1 and turn the computer on.

NOTE: Many of the commands are not easily explained on paper, please try them out while reading this document!!!

The graphics mode 8 screen has 320 positions horizontally and 192 positions vertically. When commands are entered that are in the lower portion of the screen you must use the fullscreen command to see the lower area covered by the text window.

Remember that 0,0 is the upper left hand corner of your screen and 319,191 are the coordinates of the lower right hand corner.

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BOX x1,y1,x2,y2

The first two numbers are the coordinates of the upper left corner of the box and the second pair are the coordinates of the lower right hand corner. Try it !!

CIRCLE x1,y1,rad,roundness

x1 and y1 are the coordinates of the center of the circle, rad is the radius (in horizontal units), and roundness is the relative distortion from perfect round (1 is perfectly round, numbers <1 elongate in the Y direction and numbers >1 elongate in the X direction.)

CLEAR dummy

The clear command clears the entire graphics area. Once this command is executed, there is no way to recall what was previously on the screen. Use it carefully!!!

Dummy is just that !! A number >0 and <999

CLOSEOUT dummy

This command closes the file previously created from input preceded with an "&". (Please see notes at end for more details.) This command closes the file "OUT" that you have opened with a command preceded by an "&". If you use closeout and then use a command with an "&" preceding it the file "OUT" previously created will be deleted. (Use it only once!)

DIR driveno

Dir command allows you to see the directory of "driveno". Driveno is the number of the disk drive that you want a directory of: "Dir 1" will list all files on drive 1. If a nonsensical drive number is entered, an error will occur and you will have to wait for the O.S. to timeout.

DISKERRORS dummy

The default mode of error recovery is to simply print the error number that occurred and to ignore the command (or

situation). When this command is entered, a one line error message is printed to the screen in English. This mode is active until the ERROROFF command is executed.

Please note the disk in drive 1 must have the help1 and help2 files on it for this to work !!

DRAW dummy

Draw sets up the color register (2) to draw (see erase) .

ERASE dummy

Erase changes the color register so that any position covered by any command in erase mode will erase to the default black background. The prompt character (>) is inverse-video in erase mode.

ERROROFF dummy

Turns off long error messages that were turned on by a DISKERROR command.

FILER dummy

Filer allows the Graphics Machine to get commands from the disk. After entering this command FILER prompts for a file name. At this point all input is from that file until the end of file is reached. If diskerrors is toggled on then the file DEROR must also be on the disk in drive one. Also, if the source file has errors or bad commands in it you will see it send junk to the screen !! (Don't say I didn't warn you.)

FILL x1,y1,x2,y2,skip

FILL allows you to fill in areas of the screen with white, black, blue and red. The x1,y1,x2,y2 are the same as in the BOX command (so look there !!) skip is the number of graphics mode 8 lines to skip horizontally. This fill goes from top to bottom, not left to right as in the XIO fill. Try a skip value of two and then do a fill with a value of x1 that is even, then try it with an x1 value that is odd !!! So that's what artifacting is !!! This also works in erase mode !!

For further information on artifacting please see recent publications from ATARI.

FULLSCREEN seconds

Shows you the entire graphics screen without the text window at the bottom. Note that the number of seconds that you enter is how long it will remain in this state. Because everyone seems to put in numbers way to big, you may press any key while in this state and it will revert back to normal mode. You can put in 999 and not have to wait 16 hours !!!

GETSCREEN dummy

Getscreen pulls in the entire graphics screen from the disk. This command will prompt for the file name, up to eight characters are allowed because SAVESCREEN appends a ".SCR". You will find that this command is a very fast way to retrieve a screen!

HELP

If the word "HELP" is anywhere on the command line the two help files help1 and help2 are displayed. These files are only to refresh your memory on the syntax of the commands; These files are quite terse and are not for learning this system (I say this so you who have immediately put the disks in and are frustrated don't scream at me !!!)

HIDESCREEEN dummy

This command pokes the antic off. It will hide the display while commands are entered from disk or keyboard. To turn the screen back on use SHOWSCREEN.

LINE x1,y1,x2,y2

LINE draws a line between any two points;x1 and y1 are the coordinates of the first point and x2,y2 are the coordinates of the second point.

POLYGON x1,y1,radius,sideno,rota

Polygon draws shapes centered around x1,y1 with a radius of "radius" (in x units),having "sideno" number of sides. The "rota" is the rotation angle in degrees. (Try it !!!) Zero degrees is at position x1+radius,y1 (over to the right by one radius).

SAVESCREEN dummy

This command will save the contents of the entire graphics mode 8 screen. It will prompt for a file name (up to eight characters a ".SCR" is appended.) Note that this takes 62 disk sectors so be sure the disk has room with the DIR command.

SETCOLOR reg,lum,hue

Changes the color register as per the ATARI BASIC MANUAL (page 50).

SHOWSCREEN dummy

Turns on the antic, see HIDESCREEEN. Note that after executing a HIDESCREEEN command using SHOWSCREEN is the only way to see the screen again (ie use it carefully).

TEXT x1,y1

This command will put text characters onto your screen (fast!!!). Both x1 and y1 are relative to the graphics mode 0 screen, ie y1 is the graphics mode 0 row number, x1 is however a little more complicated. If x1 is less than 40 then it is the x position. If it is greater than 40 and less than 80 then the text will be moved one pixel down. In any case x1 must be less than 255. This allows complete control over the position of text objects. See the examples on disk.

TRIANGLE x1,y1,x2,y2,x3,y3

Draws a line between the three specified points. Note that polygon can also draw triangles.

*** ** NOTES *** **

CREATING FILES

1. There is a special provision for you to enter commands to (ampersand --shift 6) the Graphics Machine will open a file called "OUT". The first occurrence of the "&" will open this file and thereafter any command that has the "&" preceding it will be sent to the disk.

1A. Exceptions: Commands that prompt you for more information cannot be sent to disk. (TEXT, GETSCREEN, SAVESCREEN) However, the format for the source command files is identical to the ASSEMBLER EDITOR cartridge files (I used the ASSEMBLER cartridge to create the demo files).

1B. For those of you who simply must send the few exceptions to the disk and do not have the assembler cartridge, please let me know, and I'll send you a line-at-time program to create files. Note that it's easy to do if you don't want to wait. (I have not written one at the time of this document but if enough people request it I will).

1C. To those who have never seen the ASSEMBLER cartridge in action: the syntax is simple:

lineeno command arg1,arg2,arg3,arg4,arg5
The Graphics Machine will skip over the line number to the first space after the line number. There must be a space after the line number, for commands to be interpreted correctly.

2. If you have the ASSEMBLER cartridge you can create source files with the editor. The auto line numbering and text manipulation can be quite useful. Create your own command names and then replace them with the full command name.

MISC.

3. If you have a printer you can get a listing of the source files you create (or the ones I have given you) by using Atari DOS command C -- copy from the file to P: . If you don't have a printer these files can be copied directly to the editor device (E:).

4. This disk may be copied using DOS. Certain files must be on the disk for correct operation. The names of these files are: ML, HELP1, HELP2, DERROS, GO, AUTORUN.SYS.

5. When doing disk stuff it is possible to create bizarre errors that I may have overlooked. If you encounter this situation PLEASE let me know so bugs can be cleaned up in the next release.

6. Protect this disk. I ask that you don't distribute it to others. Updates will be offered to purchasers at a minimal fee.

7. PLEASE MAKE ONE BACKUP AND PUT IT IN A SAFE PLACE. Since all of the command files must reside on the disk with your files.

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DEMOS

8. If you have suggestions or comments please send them to S.C.E.S. @ 5425 Jigger Dr., Soquel Ca. 95073. (408)476-4901. I need your input to know how you use this program and for improvements.
9. In the future the requirement for number inputs will be replaced with joystick input and eventually light pen input. Also many minor "tricks" will be added. Updates at minimal cost on original disk only!

Several demo command files are on this disk. To use them type "FILER dummy" and then the name of the demo you wish to see. To see all the demo's just type "FILER dummy" and at the prompt type "DEMOLoop".

Extra note: Files can call other files. DEMOLoop is one such example, it uses filer to call "DLINK.2", then "DLINK.3" calls "DLINK.3" etc.

Please keep us informed -- enjoy!!

A program to create, save and retrieve graphics screens in mode 8 with three colors and text! It is fast...Text is instantly on the screen and the save and retrieve screen commands work in five seconds. It is written in both assembly and Basic A+(supplied). MANY advanced commands are offered like circle, fill, box, polygon, and many, many more. Drawto and Plot are not needed anymore!!! Perfect for business charts, artists, kids, ...everyone. Examples are included.

This disk requires all 48k to run. If you have less than this please return the program.

Santa Cruz Educational Software's
**THE GRAPHICS
MACHINE**
FOR ATARI(tm) 48K SYSTEMS



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